Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-60 (Canceled)

61. (Currently Amended) A data processing method for transmitting data through a communication channel in a mobile communications system, comprising:

~~during configuration of a communication channel,~~ setting a coding rate of an encoder to an initial value;

adjusting the coding rate at the encoder by varying the coding rate from the initial value to an adjusted value; and

encoding data input into the encoder at a coding rate having the adjusted value,

wherein the method is implemented during at least one of variable data rate mode and flexible data rate mode.

62. (Previously Presented) The method of claim 61, wherein the encoder is a turbo encoder.

63. (Previously Presented) The method of claim 61, wherein said adjusting the coding rate of the encoder comprises puncturing data encoded at a first coding rate of the encoder to effectuate a second coding rate in a puncturing block of the encoder.

64. (Previously Presented) The method of claim 61, wherein:

the first coding rate is 1/5; and

the second coding rate is one of 1/2, 1/3, and 1/4.

65. (Previously Presented) The method of claim 61, wherein data input into the encoder comprises at least one of an information bit, a cyclic redundancy check bit, a tail bit, and a reserve bit.

66. (Currently Amended) The method of claim 61, wherein the coding rate of the encoder is varied according to a ratio of ~~a size of a block interleaver~~ a channel interleaver size and a number of bits input into the encoder over a predetermined amount of time.

67. (Previously Presented) The method of claim 66, wherein:

the coding rate is varied to 1/3 if the ratio is greater than 2 and less than or equal to 3;

the coding rate is varied to 1/4 if the ratio is greater than 3 and less than 4; and

the coding rate is varied to 1/5 if the ratio is greater than or equal to 4 and less than 5.

68. (Currently Amended) The method of claim ~~67~~ 66, wherein the predetermined amount of time is 20 ms.

69. (Currently Amended) The method of claim 61, further comprising rate matching an output of the encoder to ~~a size of a block interleaver~~ a channel interleaver size.

70. (Previously Presented) The method of claim 69, wherein:

said rate matching comprises applying a puncturing algorithm to the output of the encoder for each symbol group;

each symbol group is data output from the encoder for data that is input into the encoder over a predetermined period of time;

the data output from the encoder is divided into even symbol groups and odd symbol groups; and

different puncturing patterns are applied to even symbol groups than to odd symbol groups.

71. (Previously Presented) The method of claim 69, wherein said rate matching comprises puncturing the output of the encoder according to a puncturing algorithm.

72. (Currently Amended) The method of claim 71, wherein the puncturing is applied to symbol groups of the output of the encoder having indices 2j and 2j+1 for (j ·K) mod J < K where j=0 to J-1, J= $\lfloor \frac{I}{2} \rfloor$ and K= $\lfloor \frac{L-N}{2} \rfloor$, I is a number of data bits per frame, L is a number of the encoded data bits wherein the data bits include tail bits, N is ~~the size of block interleaver~~ the block interleaver size, and the encoder is a turbo encoder.

73. (Previously Presented) The method of claim 72, wherein the symbol groups of output of the encoder for the data bits except the tail bits having indices 2j and 2j+1 are applied to each different puncturing patterns.

74. (Previously Presented) The method of claim 72, wherein the symbol groups of output of the encoder for the tail bits having indices 2j and 2j+1 are applied to each same puncturing patterns.

75. (Previously Presented) The method of claim 71, wherein the puncturing algorithm is according to:

Pattern range	2I<N<=3I n=3		3I<N<4I n=4		4I<=N<5I n=5	
	P_0	P_1	P_0	P_1	P_0	P_1
Puncturing pattern	110	101	1101	1101	11101	11011
Tail puncturing pattern	101	101	1011	1011	11011	11011

76. (Previously Presented) The method of claim 71, wherein the puncturing algorithm is according to:

Pattern range	2I<N<=3I n=3, p=2, u=2		3I<N<4I n=4, p=4, u=3			4I<=N<5I n=5, p=2, u=2	
	P0	P1	P0	P1	P2	P0	P1
Puncturing pattern	110	101	1101	1101	1010	11101	11011
Tail puncturing pattern	101	101	1011	1011	1010	11011	11011

77. (Previously Presented) The method of claim 71, wherein the puncturing algorithm is according to:

Pattern range	2I<N<=3I n=3, p=2, u=2		3I<N<4I n=4, p=4, u=3			4I<=N<5I n=5, p=2, u=2	
	P0	P1	P0	P1	P2	P0	P1
Puncturing pattern	110	101	1101	1111	1010	11101	11011
Tail puncturing pattern	101	101	1011	1111	1010	11011	11011

78. (Previously Presented) The method of claim 71, wherein the puncturing algorithm is according to:

Pattern range	2I<N<=3I n=3		3I<N<4I n=4			4I<=N<5I n=5	
	P0	P1	P0	P1	P2	P0	P1
Data puncturing pattern	110	101	1101	1110	1011	11101	11011
Tail puncturing pattern	101	101	1011	1011	1010	11011	11011

79. (Previously Presented) The method of claim 69, wherein:

the output of the encoder comprises at least one encoded data bit and at least one encoded tail bit;

said rate matching comprises applying a first puncturing pattern and a second puncturing pattern to said at least one encoded data bit according to the coding rate; and

said rate matching comprises applying a third puncturing pattern and a fourth puncturing pattern to said at least one encoded tail bit according to the coding rate.

80. (Previously Presented) The method of claim 79, wherein:

the first puncturing pattern is applied to even groups of said at least one encoded data bit;

the second puncturing pattern is applied to odd groups of said at least one encoded data bit;

the third puncturing pattern is applied to even groups of said at least one encoded tail bit; and

the fourth puncturing pattern is applied to odd groups of said at least one encoded tail bit.

81. (Previously Presented) The method of claim 80, wherein if the coding rate is 1/3:

the first puncturing pattern is "110";

the second puncturing pattern is "101";

the third puncturing pattern is "101"; and

the fourth puncturing pattern is "101".

82. (Previously Presented) The method of claim 80, wherein if the coding rate is 1/4:

the third puncturing pattern is "1011"; and

the fourth puncturing pattern is "1011".

83. (Previously Presented) The method of claim 80, wherein if the coding rate is 1/5:

the first puncturing pattern is "11101";

the second puncturing pattern is "11011";

the third puncturing pattern is "11011"; and

the fourth puncturing pattern is "11011".

84. (Currently Amended) An apparatus ~~configured to implement the method of claim 61~~ for transmitting data through a communication channel in a mobile communications system, comprising:

a channel encoder encoding input data to be transmitted at an adjusted coding rate, the adjusted coding rate being adjusted according to a ratio of a channel interleaver size and a number of bits of the input data;

a rate matching module for matching a number of bits of the encoded data output to a channel interleaver size; and

a interleaver interleaving an output of the rate matching module according to the channel interleaver size.

85. (Previously Presented) The apparatus of claim 84, wherein the apparatus is a mobile station.

86. (Previously Presented) The apparatus of claim 84, wherein the apparatus is a base station.

Claims 87-110. (Canceled.)

Claims 111-135. (Canceled)

Claim 136. (Canceled)

Claims 137-155. (Canceled)

156. (New) A data processing method for transmitting data through a communication channel in a mobile communications system, comprising:

encoding input data to be transmitted at an adjusted coding rate, the adjusted coding rate being adjusted according to a ratio of a channel interleaver size and a number of bits of the input data;

matching a number of the encoded data output to a channel interleaver size; and

interleaving the rate matched data output according to the channel interleaver size.

157. (New) The method of claim 156, wherein the adjusted coding rate is any one of 1/2, 1/3, 1/4, and 1/5.

158. (New) The method of claim 156, wherein the encoding is performed by a turbo encoder.

159. (New) The method of claim 156, wherein the number of the encoded data output is matched to the channel interleaver size by symbol repetition or puncturing.

160. (New) The method of claim 159, wherein the symbol repetition is performed when the number of the encoded data output is smaller than the channel interleaver size.

161. (New) The method of claim 159, wherein the puncturing is performed when the number of the encoded data output is greater than the channel interleaver size.

162. (New) The method of claim 161, wherein, when the encoded data output is divided into at least two symbol groups, the puncturing is performed for each symbol group.

163. (New) The method of claim 162, wherein different puncturing patterns are applied to even symbol groups and to odd symbol groups.

164. (New) The method of claim 162, wherein, if the adjusted coding rate is $1/k_n$, each symbol group comprises one information bit and (k_n-1) parity bits.

165. (New) The method of claim 162, wherein a number (K) of bits to be punctured in each symbol group is $\lfloor \frac{L-N}{2} \rfloor$ where L is the number of bits of the encoded data output.

166. (New) The method of claim 165, wherein, when increasing indices from 0 to (I-1) are sequentially granted to all symbol groups, the puncturing is performed for symbol groups

with indices 2j and (2j+1) if [(j ·K) mod J < K] where j is an integer from 0 to (J-1) and J is $\lfloor \frac{I}{2} \rfloor$.

167. (New) The method of claim 166, wherein different puncturing patterns are applied to symbol groups having indices 2j and symbol groups having indices (2j+1).

168. (New) The method of claim 166, wherein an identical puncturing pattern is applied to symbol groups having indices 2j and symbol groups having indices (2j+1) if the symbol groups have tail bits.

169. (New) The method of claim 167, wherein, when the adjusted coding rate is 1/3, puncturing patterns '110' and '101' are applied to the symbol groups having indices 2j and the symbol groups having indices (2j+1), respectively.

170. (New) The method of claim 168, wherein, when the adjusted coding rate is 1/3, the puncturing pattern is '101'.

171. (New) The method of claim 166, wherein, when the adjusted coding rate is 1/4, a puncturing pattern '1101' is applied to the symbol groups having indices 2j and the symbol groups having indices (2j+1).

172. (New) The method of claim 168, wherein, when the adjusted coding rate is 1/4, the puncturing pattern is '1011'.

173. (New) The method of claim 167, wherein, when the adjusted coding rate is 1/5, puncturing patterns '11101' and '11011' are applied to the symbol groups having indices 2j and the symbol groups having indices (2j+1), respectively.

174. (New) The method of claim 168, wherein, when the adjusted coding rate is 1/5, the puncturing pattern is '11011'.

175. (New) The apparatus of claim 84, wherein the adjusted coding rate is any one of 1/2, 1/3, 1/4, and 1/5.

176. (New) The apparatus of claim 84, wherein the channel encoder is a turbo encoder.

177. (New) The apparatus of claim 84, wherein the rate matching module matches the number of the encoded data output to the channel interleaver size by symbol repetition or puncturing.

178. (New) The apparatus of claim 177, wherein the symbol repetition is performed when the number of the encoded data output is smaller than the channel interleaver size.

179. (New) The apparatus of claim 177, wherein the puncturing is performed when the number of the encoded data output is greater than the channel interleaver size.

180. (New) The apparatus of claim 179, wherein, when the encoded data output is divided into at least two symbol groups, the puncturing is performed for each symbol group.

181. (New) The apparatus of claim 180, wherein different puncturing patterns are applied to even symbol groups and to odd symbol groups.

182. (New) The apparatus of claim 180, wherein, if the adjusted coding rate is $1/k_n$, each symbol group comprises one information bit and (k_n-1) parity bits.

183. (New) The apparatus of claim 180, wherein a number (K) of bits to be punctured in each symbol group is $\lfloor \frac{L-N}{2} \rfloor$ where L is the number of bits of the encoded data output.

184. (New) The apparatus of claim 183, wherein, when increasing indices from 0 to (I-1) are sequentially granted to all symbol groups, the puncturing is performed for symbol groups with indices 2j and (2j+1) if [(j·K) mod J < K] where j is an integer from 0 to (J-1) and J is $\lfloor \frac{I}{2} \rfloor$.

185. (New) The apparatus of claim 184, wherein different puncturing patterns are applied to symbol groups having indices 2j and symbol groups having indices (2j+1).

186. (New) The apparatus of claim 184, wherein an identical puncturing pattern is applied to symbol groups having indices 2j and symbol groups having indices (2j+1) if the symbol groups have tail bits.

187. (New) The apparatus of claim 185, wherein, when the adjusted coding rate is 1/3, puncturing patterns '110' and '101' are applied to the symbol groups having indices 2j and the symbol groups having indices (2j+1), respectively.

188. (New) The apparatus of claim 186, wherein, when the adjusted coding rate is 1/3, the puncturing pattern is '101'.

189. (New) The apparatus of claim 184, wherein, when the adjusted coding rate is 1/4, a puncturing pattern '1101' is applied to the symbol groups having indices 2j and the symbol groups having indices (2j+1).

190. (New) The apparatus of claim 186, wherein, when the adjusted coding rate is 1/4, the puncturing pattern is '1011'.

191. (New) The apparatus of claim 185, wherein, when the adjusted coding rate is 1/5, puncturing patterns '11101' and '11011' are applied to the symbol groups having indices 2j and the symbol groups having indices (2j+1), respectively.

192. (New) The apparatus of claim 186, wherein, when the adjusted coding rate is 1/5, the puncturing pattern is '11011'.